

In the claims:

1. (Withdrawn) A method for forming a semiconductor device comprising:  
forming a semiconductor film comprising silicon over a substrate; and  
irradiating said semiconductor film with a linear laser light to form a region to become at least a channel formation region in said semiconductor film,  
wherein said region to become at least a channel formation region contains hydrogen at a concentration of  $1 \times 10^{15}$  to  $1 \times 10^{20}$  atoms  $\text{cm}^{-3}$ , also contains carbon and nitrogen at a

concentration of  $1 \times 10^{16}$  to  $5 \times 10^{18}$  atoms  $\text{cm}^{-3}$ , and further contains oxygen at a concentration of  $1 \times 10^{17}$  to  $5 \times 10^{19}$  atoms  $\text{cm}^{-3}$ .

2. (Withdrawn) A method for forming a semiconductor device comprising:

forming a semiconductor film comprising silicon over a substrate; and

irradiating said semiconductor film with a linear laser light to form a region to become at least a channel formation region in said semiconductor film,

wherein said region to become at least a channel formation region contains hydrogen and halogen at a concentration of  $1 \times 10^{15}$  to  $1 \times 10^{20}$  atoms  $\text{cm}^{-3}$ , also contains carbon and nitrogen at a concentration of  $1 \times 10^{16}$  to  $5 \times 10^{18}$  atoms  $\text{cm}^{-3}$ , and further contains oxygen at a concentration of  $1 \times 10^{17}$  to  $5 \times 10^{19}$  atoms  $\text{cm}^{-3}$ .

3. (Withdrawn) A method for forming a semiconductor device comprising:

forming a semiconductor film comprising silicon over a substrate; and

irradiating said semiconductor film with a linear laser light to form a single-crystalline region or region equivalent to the single-crystalline region to become at least a channel formation region in said semiconductor film,

wherein said single-crystalline region or region equivalent to the single-crystalline region contains substantially no crystal boundary therein, contains hydrogen at a concentration of  $1 \times 10^{15}$  to  $1 \times 10^{20}$  atoms  $\text{cm}^{-3}$ , also contains carbon and nitrogen at a concentration of  $1 \times 10^{16}$  to  $5 \times 10^{18}$  atoms  $\text{cm}^{-3}$ , and further contains oxygen at a concentration of  $1 \times$

$10^{17}$  to  $5 \times 10^{19}$  atoms  $\text{cm}^{-3}$ .

4. (Withdrawn) A method for forming a semiconductor device comprising:

forming a semiconductor film comprising silicon over a substrate; and

irradiating said semiconductor film with a linear laser light to form a single-crystalline region or region equivalent to the single-crystalline region to become at least a channel formation region in said semiconductor film,

wherein said single-crystalline region or region equivalent to the single-crystalline region contains substantially no crystal boundary therein, contains hydrogen and halogen at a concentration of  $1 \times 10^{15}$  to  $1 \times 10^{20}$  atoms  $\text{cm}^{-3}$ , also contains carbon and nitrogen at a concentration of  $1 \times 10^{16}$  to  $5 \times 10^{18}$  atoms  $\text{cm}^{-3}$ , and further contains oxygen at a concentration of  $1 \times 10^{17}$  to  $5 \times 10^{19}$  atoms  $\text{cm}^{-3}$ .

5. (Withdrawn) A method for forming a semiconductor device comprising:

forming an amorphous semiconductor film comprising silicon over a substrate;

forming an amorphous semiconductor island comprising silicon by etching said amorphous semiconductor film into a first shape having a narrowest width of 100  $\mu\text{m}$  or less;

irradiating said semiconductor island with a linear laser light to form a single-crystalline region or region equivalent to the single-crystalline region to become at least a channel formation region in said semiconductor island; and

etching an end portion of said semiconductor island to narrow a portion of said semiconductor island from said end

portion of said semiconductor island by 10  $\mu\text{m}$  or more to form a second shape semiconductor region which has the narrowed portion in at least said channel formation region,

wherein said single-crystalline region or region equivalent to the single-crystalline region contains substantially no crystal boundary therein, contains hydrogen and halogen at a concentration of  $1 \times 10^{15}$  to  $1 \times 10^{20}$  atoms  $\text{cm}^{-3}$ , also contains carbon and nitrogen at a concentration of  $1 \times 10^{16}$  to  $5 \times 10^{18}$  atoms  $\text{cm}^{-3}$ , and further contains oxygen at a concentration of  $1 \times 10^{17}$  to  $5 \times 10^{19}$  atoms  $\text{cm}^{-3}$ .

6. (Withdrawn) A method according to claim 1 wherein said linear laser light is a laser light selected from the group consisting of a KrF excimer laser light, a XeCl excimer laser light, a Nd:YAG laser light, a second harmonic of said Nd:YAG laser light and a third harmonic of said Nd:YAG laser light.

7. (Withdrawn) A method according to claim 1 wherein said substrate is selected from the group consisting of a glass substrate and a quartz substrate.

8. (Withdrawn) A method according to claim 2 wherein said linear laser light is a laser light selected from the group consisting of a KrF excimer laser light, a XeCl excimer laser light, a Nd:YAG laser light, a second harmonic of said Nd:YAG laser light and a third harmonic of said Nd:YAG laser light.

9. (Withdrawn) A method according to claim 2 wherein said substrate is selected from the group consisting of a glass substrate and a quartz substrate.

10. (Withdrawn) A method according to claim 3 wherein said linear laser light is a laser light selected from the group consisting of a KrF excimer laser light, a XeCl excimer laser light, a Nd:YAG laser light, a second harmonic of said Nd:YAG laser light and a third harmonic of said Nd:YAG laser light.

11. (Withdrawn) A method according to claim 3 wherein said substrate is selected from the group consisting of a glass substrate and a quartz substrate.

12. (Withdrawn) A method according to claim 4 wherein said linear laser light is a laser light selected from the group consisting of a KrF excimer laser light, a XeCl excimer laser light, a Nd:YAG laser light, a second harmonic of said Nd:YAG laser light and a third harmonic of said Nd:YAG laser light.

13. (Withdrawn) A method according to claim 4 wherein said substrate is selected from the group consisting of a glass substrate and a quartz substrate.

14. (Withdrawn) A method according to claim 5 wherein said linear laser light is a laser light selected from the group consisting of a KrF excimer laser light, a XeCl excimer laser light, a Nd:YAG laser light, a second harmonic of said Nd:YAG laser light and a third harmonic of said Nd:YAG laser light.

15. (Withdrawn) A method according to claim 5 wherein said substrate is selected from the group consisting of a glass substrate and a quartz substrate.

16. (Withdrawn) A method according to claim 1 wherein said semiconductor device is a liquid crystal display.

17. (Withdrawn) A method according to claim 2 wherein said semiconductor device is a liquid crystal display.

18. (Withdrawn) A method according to claim 3 wherein said semiconductor device is a liquid crystal display.

19. (Withdrawn) A method according to claim 4 wherein said semiconductor device is a liquid crystal display.

20. (Withdrawn) A method according to claim 5 wherein said semiconductor device is a liquid crystal display.

21. (Withdrawn) A method of manufacturing a semiconductor device comprising the steps of:

forming an amorphous semiconductor film over a substrate;

irradiating the amorphous semiconductor film with a CW laser having a wavelength of 532 nm to crystallize the amorphous semiconductor film; and

patterning the crystallized semiconductor film to form an active layer including at least a channel formation region.

22. (Withdrawn) The method according to claim 21 wherein said amorphous semiconductor film comprises amorphous silicon.

23. (Withdrawn) A method of manufacturing a semiconductor device comprising the steps of:

forming an amorphous semiconductor film over a substrate;

irradiating the amorphous semiconductor film with a CW laser having a wavelength of 355 nm to crystallize the amorphous semiconductor film; and

patterning the crystallized semiconductor film to form an active layer including at least a channel formation region.

24. (Withdrawn) The method according to claim 23 wherein said amorphous semiconductor film comprises amorphous silicon.

---

25. (Currently amended) A method of manufacturing a semiconductor device comprising the steps of:

forming an amorphous semiconductor film over a substrate;

irradiating the amorphous semiconductor film with a second harmonic of a CW-continuous wave laser comprising Nd to crystallize the amorphous semiconductor film; and

patterning the crystallized semiconductor film to form an active layer including at least a channel formation region.

26. (Previously added) The method according to claim 25 wherein said amorphous semiconductor film comprises amorphous silicon.

27. (Currently amended) The method according to claim 25 wherein said CW-continuous wave laser comprising Nd is an Nd:YAG laser.

28. (Currently amended) A method of manufacturing a semiconductor device comprising the steps of:

forming an amorphous semiconductor film over a substrate;

irradiating the amorphous semiconductor film with a third harmonic of --a CW-continuous wave laser comprising Nd to crystallize the amorphous semiconductor film; and

patterning the crystallized semiconductor film to form an active layer including at least a channel formation region.

*PH and*  
29. (Previously added) The method according to claim 28 wherein said amorphous semiconductor film comprises amorphous silicon.

30. (Currently amended) The method according to claim 28 wherein said CW-continuous wave laser comprising Nd is an Nd:YAG laser.

---